



## Year 4/5 Home Learning

Please see below the tasks we would like your child to work on this week. If you have any problems, please remember that you can email at [ask@priestley.wilts.sch.uk](mailto:ask@priestley.wilts.sch.uk) during school hours.

Please note that any links to internet sites and YouTube videos need to be supervised by an adult, and they may contain adverts. You do not need to pay for any of the sites we are suggesting.

### Maths

<https://www.priestley.wilts.sch.uk/parents-information>

#### Summer Term - Week 5

Lesson 1 – Recognise tenths and hundredths

Lesson 2 – Equivalent fractions (1)

Lesson 3 – Equivalent fractions (2)

Lesson 4 – Fractions greater than 1

Lesson 5 – Friday Challenge

#### Week 6

Lesson 1 – Add 2 or more fractions

Lesson 2 – Subtract 2 fractions

Lesson 3 – Fractions of a quantity

Lesson 4 – Calculate quantities

Lesson 5 – Friday Challenge

<https://www.priestley.wilts.sch.uk/parents-information>

#### Summer Term - Week 5

Lesson 1 – Add and Subtract Fractions

Lesson 2 – Add fractions

Lesson 3 – Add mixed numbers

Lesson 4 – Subtract Mixed Numbers

Lesson 5 – Friday Challenge

#### Week 6

Lesson 1 – Multiply unit and non-unit fractions by integers

Lesson 2 – Multiply mixed numbers by integers

Lesson 3 – Fractions of an amount

Lesson 4 – Fractions as operators

Lesson 5 – Friday Challenge

Maths learning will follow the White Rose Home learning lessons. Some of the learning is new learning and some will be work we may have covered previously. If it is too difficult take a look at the other Year groups.

**Useful links:**

White Rose <https://whiterosemaths.com/homelearning/>  
Master the Curriculum Year5 <https://masterthecurriculum.co.uk/products/?year=year-5&cat=math&subcat=mixed-objective-activities> these activities are free.

Master the Curriculum Year 4 <https://masterthecurriculum.co.uk/products/?year=year-4&cat=math&subcat=mixed-objective-activities> these activities are free

DoodleMaths <https://www.doodlemaths.com/>

Top marks <https://www.topmarks.co.uk/maths-games/7-11-years/fractions-and-decimals>

IXL Year 5 section linked to fractions & decimals <https://uk.ixl.com/math/year-5>

IXL Year 4 section linked to fractions & decimals <https://uk.ixl.com/math/year-4>

Times Table Rock Stars <https://trockstars.com/>

**Reading**

Make sure that children are continuing to read every day at home. They can read to an adult at home or their siblings. Make sure that you are also discussing what they have read and asking them questions to see how much they have understood of the story.

**Useful links:**



**Welcome to Book Trust Home Time**

Looking for something fun as a family? Enjoy story time with our free online books and videos, play games, win prizes, test your knowledge in our book-themed quizzes, or even learn how to draw some of your favourite characters.

<https://www.booktrust.org.uk/books-and-reading/have-some-fun/>



Waterstones Children's Laureate Cressida Cowell has loads of great stuff planned! She's reading How to Train Your Dragon chapter-by-chapter and suggesting activities to try, as well as organising lots of other fun stuff for your children.

<https://www.youtube.com/playlist?list=PLE5MZB5pedUMNjLdgu0wYaSIL0dRLHcU0>



For as long as schools are closed, we're open. Starting today, children everywhere can instantly stream an incredible collection of stories, including titles across six different languages, that will help them continue dreaming, learning, and just being kids.

## Stories help.

They entertain. They teach. They keep young minds active, alert, and engaged.

All stories are free to stream on your desktop, laptop, phone or tablet.

Explore the collection, select a title and start listening.

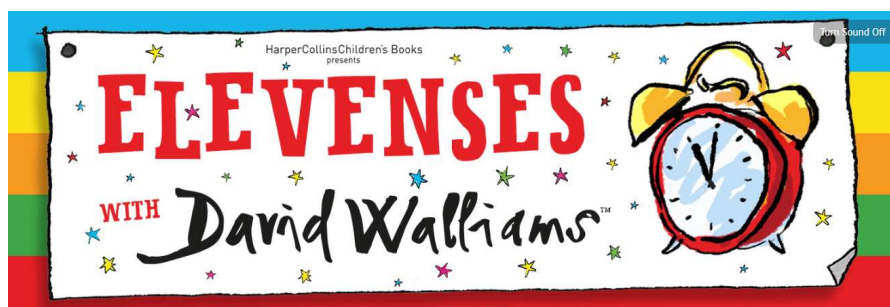
It's that easy. <https://stories.audible.com/start-listen>

## Cracking Comprehension

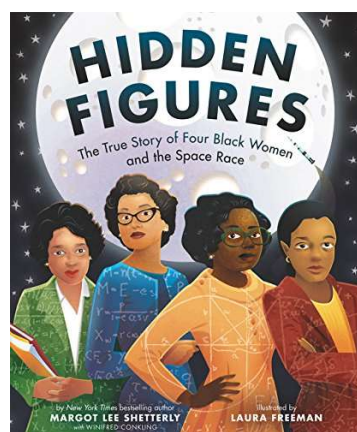
<https://www.risingstars-uk.com/login>

Author David Walliams is also reading stories aloud for children at 11am daily. You can find all previous read stories on his website free for you to listen to:

<https://www.worldofdavidwalliams.com/elevenses-catch-up/>



### Hidden Figures: The Untold Story of the African American Women Who Helped Win the Space Race written by Margot Lee Shetterly



Based on the *New York Times* bestselling book and the Academy Award-nominated movie, author Margot Lee Shetterly and Coretta Scott King Illustrator Honor Award winner Laura Freeman bring the incredibly inspiring true story of four black women who helped NASA launch men into space to picture book readers! This nonfiction picture book is an excellent choice to share during homeschooling, in particular for children ages 4 to 6. It's a fun way to learn to read and as a supplement for activity books for children.

Dorothy Vaughan, Mary Jackson, Katherine Johnson, and Christine Darden were good at math...*really* good.

They participated in some of NASA's greatest successes, like providing the calculations for America's first journeys into space. And they did so during a time when being black and a woman limited what they could do. But they worked hard. They persisted. And they used their genius minds to change the world.

#### Hidden Figures

<https://www.youtube.com/watch?v=dKFiscQK5uY> (The story being read)

### Hidden Figures

Dorothy Vaughan, Mary Jackson, Katherine Johnson, and Christine Darden were good at math...*really* good.

In 1943, the United States was at war, World War II. Dorothy Vaughan wanted to serve her country by working for the National Advisory Committee for Aeronautics, the government agency that designed airplanes. Having the best airplanes would help America win the war. Making airplanes fly faster and higher and safer meant doing lots of tests at the agency's Langley Laboratory in Hampton, Virginia. Tests meant numbers, numbers meant math, and math meant computers.

Today, we think of computers as machines, but in the 1940s computers were actual people like Dorothy, Mary, Katherine, and Christine. Their job was to do the math.

Because Dorothy was black and a woman, some people thought it would be impossible for her to get a job as a computer. She lived in Virginia, a Southern State, where laws segregated, or kept apart, black people and white

people. They could not eat at the same restaurant. They could not drink from the same water fountains. They could not use the same restrooms. They could not attend the same schools. They could not play on the same sports teams. They could not sit near each other in movie theatres. They could not marry someone of a different race.

But Dorothy didn't think it was impossible. She was good at math...really good! She knew she was the right person for the job. She applied and the laboratory offered her a position, as a computer. At work, blacks and whites were kept apart. The white computers worked in one building and Dorothy and the other black computers worked in a different building in their separate office. Even though they worked on the same kinds of assignments, the black computers and the white computers used separate bathrooms and ate in separate lunchrooms.

America won the war in 1945, but Dorothy stayed on the job still trying to make airplanes faster and safer. By 1951, the Americans and the Russians were competing to see who could build the best planes. That meant more experiments and more numbers. Lots and lots of numbers. And more numbers meant the need for more computers.

That's when Mary Jackson got a job as a computer at Langley. She worked in a group that tested model airplanes in wind tunnels. A wind tunnel was a machine like a huge metal box with a powerful fan attached. Mary put model airplanes in the wind tunnel and blasted them with air from the fan. This experiment helped her group improve their designs on the models before building full-sized airplanes.

Mary wanted to become an engineer, but officials said it was impossible. Most of the engineers at the laboratory were men. And to become an engineer, Mary needed to take high-level math classes, but she wasn't allowed to go inside the white school where the classes were taught. But Mary was good at math, really good and she refused to give up. She got permission to enter the school building and take the math classes, and she earned good grades. Because she didn't give up, Mary Jackson became the first African American female engineer at the laboratory.

Katherine Johnson was good at math and always asked lots of questions. In 1953, she applied to the laboratory for a computer job and was placed on a team that tested actual planes whilst they were flying in the air. Their research was used to figure out ways to prevent future plane crashes. In one of her first projects, she learned how to analyse turbulence, or dangerous gusts of air. No-one knows how many lives her work may have helped save.

Katherine wanted to help the group prepare its research reports, so she asked if she could go to meetings with the other experts on her team. Her boss told her it was impossible. "Women aren't allowed to attend meetings," he said. But Katherine knew she was as good at math as anyone else – maybe better. So, she asked him again. And again. And again. Katherine asked her boss so many times that he finally invited her to the meetings. Katherine was good at math – really good. And because she fought to be treated the same as the men, she became the first woman in her group to sign her name to one of the group's reports.

In the 1950s, the Langley laboratory bought a machine computer that could do math faster than the human computers. At first, these machines made mistakes. Dorothy learned how to program the machines so that they got the right answers. She taught the women in her group how to program the computers, too.

In 1957, Russia launched a satellite known as Sputnik into orbit around the Earth. The United States started building satellites to explore space too. For years, the laboratory has used math to design airplanes. Now it would need math to create spaceships as well. The government decided to change the agency's name from 'The National Advisory Committee for Aeronautics' to 'The National Aeronautics and Space Administration' – NASA.

In 1961, President John F. Kennedy told Congress "I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to Earth." A man on the moon! But the first step to getting a man on the moon was to send an astronaut around the Earth. NASA was going to need to hire more space experts and more people who were good at math. Really good.

The people at the laboratory had to work together from morning to night to figure out how to send astronaut John Glenn into space – and bring him back home to Earth safely. Katherine Johnson knew she could use math to help. "Tell me where you want his spaceship to land, and I'll tell you where to launch it," Katherine told her boss. Katherine helped calculate the trajectories – or pathways – that rockets travelled through space. She had to plan Glenn's exact route from take-off in Florida to splashdown in the Atlantic Ocean. There was no room for error.

No one was better than Katherine at solving these tricky math problems. Days before his mission, John Glenn wanted Katherine to double check the machine computer's trajectory calculations, to make sure it hadn't made any mistakes. When Katherine said the numbers were correct, Glenn was ready to go. On February 20<sup>th</sup> 1962, Glenn blasted off into space, circled the Earth and made his way home safely.

Meanwhile, laws began to change so that black and white students could go to school together. Blacks fought for the right to sit beside whites on buses and to drink from the same water fountains. At the laboratory, black and white computers started working together in the same offices, eating at the same lunch tables, and using the same

bathrooms. Black and white moviegoers could sit next to each other in the same theatre. Across the country, people started to think about ways to bring equality to all Americans.

Christine Darden was good at math and she loved electronic computers. She started working at Langley in 1967. Christine wanted to become an engineer and thanks to Dorothy, Mary, and Katherine, she knew it was possible. Eventually, she became an engineer for supersonic airplanes – planes flying faster than the speed of sound. But her first job was to help with NASA's mission to the moon.

The people at the laboratory prepared for years to send astronauts to the moon - about 238,900 miles away from the Earth! Finally, on July 20<sup>th</sup>, 1969, the world watched as the three men arrived at the moon in their Apollo 11 spacecraft. "That's one small step for man, one giant leap for mankind," the astronaut Neil Armstrong said when he stepped onto the dusty surface. But it was also a giant leap for Dorothy, Mary, Katherine, Christine and all the other computers and engineers who had worked at the laboratory over the years.

The moon landing was a success from take-off to splashdown. But there was no time to rest. Once NASA landed astronauts on the moon, the people at the laboratory began dreaming of sending humans to other planets, such as Mars or Jupiter or Saturn. They started to imagine hyper-fast space planes that could travel around the Earth at seven times to the speed of sound.

The next adventure wouldn't be easy and would require lots of tests and lots more numbers. But Dorothy, Mary Katherine and Christine knew one thing, with hard work, perseverance and a love of math, anything was possible.

### Think about the story

Have a think about the meaning of the story. What is it trying to tell you? What happened in the story?

Have a look at the double page spread below. What message is it trying to give?



### Discussion Questions

Why should we remember the achievements of these women?

How might the women have been feeling at different points in the story?

What were the times in the women's lives when they had to prove themselves?

How are these women role models?

What is your opinion of society then?

Do you think things have changed?

### Look at the following words:

Principle, vision, integrity, courage, strength, determination, ingenuity, brilliance, endurance, generosity, cowardliness, dishonesty, weakness, narrowness.

**Try using some of these words to write a character description of Dorothy Vaughan.**

One way we often describe impressive individuals is to use a noun (of) noun phrase e.g. a woman of integrity.

*An example*

***Dorothy Vaughan was a woman of strength and integrity. She had a vision to exceed expectations despite the segregation and sexism that was everywhere. Dorothy, who worked long hours, was a woman of exceeding strength with a brilliance of mind.***



## Writing

Your first assignment is to find out all you can about NACA and NASA!

Why not create your own Wikipedia page about NASA and NACA?

It might be helpful, before you start your Wiki page, to map out what you know already using a grid like this.

What I Know	What I think I Know	Questions
NASA launched the first man on the moon	NASA could have been called NACA before because they used to work with planes rather than rockets	Who are some of the people in the photos?

Try drawing our your own. Once you have completed your research and collected facts, try putting them under the following headings: NACA During the War; Segregation in NACA; Famous Astronauts and Pilots; Technology; Achievements Here is a sentence to get you started: Interestingly, NASA was founded in 1958 during the Cold War. Before this, it was known as NACA since...

## Job Advert

You need new recruits to the Space Programme, **create a job advert** to find the perfect applicant. What skills and characteristics will they need?

Before you create your advert, you'll need to decide which role you're advertising for.

Can you create different jobs using these word endings? -er, -ologist, -cian, -ist?

Engine, build, design, mathematics, compute, science, bio, meteor, physics, type, technical, electric, statistics, astronomy

Do you think any of these jobs would be useful for working in NASA or NACA or both? Why?

We are going to continue our vital work for NASA/NACA by writing a job advert - we need to recruit new members!

Choose which role you're recruiting for and decide what information you need to include on your advert.



## Persuasive Writing

**Mary Jackson is not allowed to study at Hampton High School due to segregation.**

**Write a persuasive letter to the judge in role as Mary Jackson.**

Look at these prefixes: **In-** or **Un**

Which prefix can you attach to the following root words and how does it change the meaning?

**Justice, principled, fair, reliable, realistic, questionable, able, enthusiastic, comprehensible, controllable, appealing, credible, correct, dependent, equal.**

Can you use these words in your letter?

**I suggest you... I recommend you... It is essential you... It is crucial you... I strongly urge you...**

We need to put on our most formal voices! We might need to use sentence openers such as the ones above. For example:

**I strongly urge you to change the law and support my application. This is an injustice!**

### Letter of Advice

Katherine Johnson had three daughters who she looked after on her own after her husband died in 1956.

At NASA, she faced discrimination due to being a woman.

**What advice would Katherine have given to her three daughters? Write a letter as Katherine to her daughters.**

**Try sorting these words into ones you know and don't know:**

versatile, industrious, resilient, innovative, persistent, patient

**Can you find out what the unknown words mean?**

Think about the qualities people in different jobs need:

If you are an engineer, then you can show how innovative you are by...

**What advice would Katherine have given to her three daughters Katherine, Constance and Joylette?**

For example:

It will be important you talk to each other and comfort each other. If you feel that people have low expectations of you – either for the colour of your skin or because you are a girl – then show how innovative and versatile you can be. Be persistent like your mother!

**Write your own letter to her three daughters giving them advice as to how they could be successful in their jobs.**

### Newspaper Article

**Why are the stories of these women important?**

**Write an opinion piece for a newspaper explaining the impact these women had on history.**

Why do you think the book we are reading is called Hidden Figures?

Even though these women's achievements are being recognised now, it has been a long struggle for their story to be told, why do you think that has been the case?

**Let's write a newspaper opinion piece that reviews the importance of the book and film. Use these questions to help.**

Why should we remember the achievements of these women?

Why is it an important question?

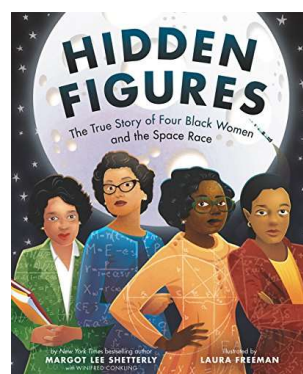
What is the story Hidden Figures about?

What is your opinion on this issue?

Any interesting quotes?

How will this affect the future?

Are things changing?



## Spellings

Take this time to learn to spell all the common exception words for your Year group.

### New Curriculum Spelling List Years 3 and 4



accident	centre	experience	important	ordinary	reign
accidentally	century	experiment	interest	particular	remember
actual	certain	extreme	island	peculiar	sentence
actually	circle	famous	knowledge	perhaps	separate
address	complete	favourite	learn	popular	special
although	consider	February	length	position	straight
answer	continue	forwards	library	possess	strange
appear	decide	fruit	material	possession	strength
arrive	describe	grammar	medicine	possible	suppose
believe	different	group	mention	potatoes	surprise
bicycle	difficult	guard	minute	pressure	therefore
breath	disappear	guide	natural	probably	though
breathe	early	heard	naughty	promise	thought
build	earth	heart	notice	purpose	through
busy	eight	height	occasion	quarter	various
business	eighth	history	occasionally	question	weight
calendar	enough	imagine	often	recent	woman
caught	exercise	increase	opposite	regular	women

### New Curriculum Spelling List Years 5 and 6



accommodate	communicate	equip	immediately	physical	sincerely
accompany	community	equipped	individual	prejudice	soldier
according	competition	equipment	interfere	privilege	stomach
achieve	conscience	especially	interrupt	profession	sufficient
aggressive	conscious	exaggerate	language	programme	suggest
amateur	controversy	excellent	leisure	pronunciation	symbol
ancient	convenience	existence	lightning	queue	system
apparent	correspond	explanation	marvellous	recognise	temperature
appreciate	criticise	familiar	mischievous	recommend	thorough
attached	curiosity	foreign	muscle	relevant	twelfth
available	definite	forty	necessary	restaurant	variety
average	desperate	frequently	neighbour	rhyme	vegetable
awkward	determined	government	nuisance	rhythm	vehicle
bargain	develop	guarantee	occupy	sacrifice	yacht
bruise	dictionary	harass	occur	secretary	
category	disastrous	hindrance	opportunity	shoulder	
cemetery	embarrass	identity	parliament	signature	
committee	environment	immediate	persuade	sincere	



## Learn: This week we will be focusing on 'alphabetical order'

**My aim:** to put words into **alphabetical order**.



**Tip**

Dictionaries and thesauruses are organised alphabetically. If two words have the same first letter, then the second letter is used to order them. If the second letter is the same, the third letter is used, and so on. For example: *funfair, fungus, funky, funnel, funny*.

**Draw an arrow showing where you would put the following words in the dictionary.**

detain			
detach	detail	detect	determined

exile			
exhale	exhaust	exhibit	exit

generate			
general	generous	genesis	genetic

laugh				
lastly	latch	lately	later	latest

**Demonstrate how well you know the alphabet by creating sentences in which the first letter of each word follows alphabetical order.**

**EXAMPLE:** *Kitten loses mouse near open quarry. Amazing bats can do exercises.*

1. ....
2. ....
3. ....
4. ....
5. ....
6. ....
7. ....

## Learn: This week we will be focusing on 'root words'

**My aim:** to extend my vocabulary using **root words**.



**Root words** are the basic elements to which bits are attached to create new words. Knowing these connections helps to widen your vocabulary.

**EXAMPLE:** From the word *public* we get *publicity, publication, publicise, publish, publisher*.

From the word *medical* we get *medicate, medication, medicine, medicinal*.

**What words do we get from the following root words? Use a dictionary to find two more root words and linked words of your own.**

Root Word	Linked Words
sign	
hand	
light	

## Science

### Earth and Space

Can you describe the movement of the Earth, and other planets, relative to the sun in the solar system?

Or describe the movement of the Moon relative to the Earth?

Maybe draw diagrams to help.

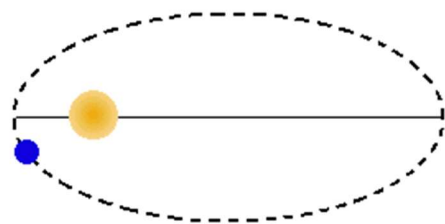
**Create a poster all about 'Orbit'.**

How do objects stay in orbit?

What shape is an orbit?

Where do satellites orbit the Earth?

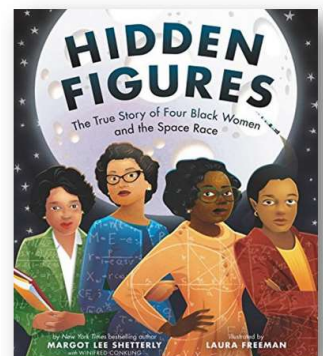
<https://www.nasa.gov/audience/forstudents/5-8/features/nasa-knows/what-is-orbit-58.html>



## History

What can you find out about the lives of the significant individuals Dorothy Vaughan, Mary Jackson, Katherine Johnson, Christine Darden?

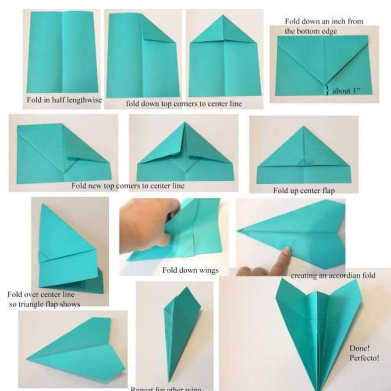
**Create a report to share their international achievements.**



## Art

Have a go at some Origami – the art of folding paper.

Can you make this paper airplane and test how far it flies?



If you were to fold your airplane in a different way, could you get it to fly further or for longer?

Have a go!



When you've mastered the paper airplane, can you make one with objects from around your house?

Can you get these to fly too?

## PE

### Keeping Active

Being less able to go outside and play with other children may mean that your child is less active than normal but there are lots of ways you can incorporate exercise into your new home learning routine.

YouTube is an endless source of great exercise and dance videos for your children. Try these to start with – there are plenty more!

- Go Noodle is a free service parents can sign up for that provides dances/educational songs for the children to dance too. They can earn points and upgrade characters the more they do. <https://app.gonoodle.com/>
- <https://www.youtube.com/user/DanceandBeatsLab> has a wide selection of fun dance routines for younger children to enjoy.
- <https://www.youtube.com/channel/UC0Vlhde7N5uGDIFXXWWEbFQ> has a more challenging selection of videos for older children.
- <https://www.youtube.com/user/CosmicKidsYoga> has a fun range of videos to guide your child through yoga sessions.
- Jump Start Jonny - has some fab free high-energy workouts on his website, plus a few on YouTube too. [www.jumpstartjonny.co.uk/home](http://www.jumpstartjonny.co.uk/home)
- Supmovers <https://www.bbc.co.uk/teach/supmovers> Active learning for English, Maths, Science and PSHE.

**Practical tip:** Make sure children warm up and warm down before and after each workout session. Walking on the spot, arm swings or circles, jumping jacks, side hops and lunges are all good options.

**Joe Wicks is providing free PE lessons live at 9am each day via his YouTube channel. This is a great way to start the day and is suitable for all ages. Either google 'Joe Wicks PE lesson' or go to the link below:**

<https://www.thebodycoach.com/blog/pe-with-joe-1254.html>

